Title V Emissions Inventory Checklist
SPARS Webinar Training Exercise

1.0 SITE MANAGEMENT

Have emission points, emission units, control equipment, and monitoring equipment remain the same since the last inventory submittal?

If **Yes**, go to Section 2.0 - Application Query Tool. If **NO**, update Site Management as follows, wherever applicable:

☐ Enter the "Cease Operation Date" for all emission points, emission units, control equipment, or monitoring equipment no longer operating

Spray Paint Booth #3 (EU-S03.1) was dismantled on December 31, 2009. As indicated in the previous inventory, this unit is connected to Emission Point EP-S03.1 and to Control Equipment CE-S03.1. These are also gone; therefore, Construction Permit No. 98-A-184 for EP-S03.1 was rescinded.

Boiler #1 (EU-S05) was also dismantled on December 31, 2009. As indicated in the previous inventory, this unit is connected to Emission Point EP-S05 and to Control Equipment CE-S05. These are also gone; therefore, Construction Permit No. 98-A-187 for EP-S05 was rescinded.

☐ Disconnect all emission points, emission units, control equipment, or monitoring equipment no longer operating

Disconnect EU-S03.1, EP-S03.1, and CE-S03.1

Disconnect EU-S05, EP-S05, and CE-S05

☐ Create and enter information for new emission points, emission units, control equipment, and monitoring equipment that operated during inventory year

Construction Permit No. 09-A-199 was issued to the facility for a new emission point (EP-S06). Boiler #2 (EU-S06) with low NOx burners (CE-S06) are associated with this new emission point. Two raw materials are used by this emission unit: natural gas and fuel oil #2. The construction date for the new boiler (EU-S06 - Boiler #2) was September 15, 2009. It started operation on January 1, 2010. This new emission unit is associated with new control equipment CE-S06, and new emission point EP-S06. These are the specifics:

FACILITY'S CONTROL EQUIPMENT #5

Control Equipment ID: CE-S06
Control Equipment Name: Low NOx Burners
Manufacturer: Siemens
Model No: SLN-0098
Start Operation Date: 1/1/10
Exhaust to atmosphere: Yes
Efficiency: Manufacturer's design specifications and performance data/guarantee
Specifications: Control efficiency for NOx is 74% when burning natural gas.

FACILITY's SIGNIFICANT EMISSION UNIT #9

Emission Unit ID: EU-S06
Emission Unit Name: Boiler #2
Emission Control Type: Low NOx Burners
Manufacturer: Cleaver Brooks
Model No: CB200-800
Construction Date: 9/15/09
Actual Start Operation Date: 1/1/10
Permit or Rule Limit: 09-A-199
SCC No (1): 10200602
Description of Process: BOILER #2 - NATURAL GAS
Max Design Rate Amount: 34.0
Max Design Rate Units: Million BTUs
Raw Material: Natural Gas
Control Equipment: CE-S06

FACILITY'S EMISSION POINT #11

Emission Unit ID: EP-S06
Descriptive Name: Boiler #2 Stack
Emission Point Type: Vertical Stack/Vent
Start Operation Date: 1/1/10
Exhaust Rated Flow Rate: 54500
Exhaust Flow Unit: ACFM
Exit Temperature (F): 75
Stack Opening Size: Circular
(Dia or Length): 48
Units: Inches
Stack Height (ft) from the Ground: 100
Discharge Style: V (Vertical, without rain cap or with un-obstructing rain cap)
Emission Units: EU-S06
Control Equipment: CE-S06

☐ Connect the new emission points, emission units, control equipment, and monitoring equipment

2.0 APPLICATION QUERY TOOL

Create and complete inventory as follows (***see Chapter 8 – Starting on Page 51***)

☐ Create new inventory using most recent inventory found in SPARS. **NOTE**: Please remember to enter correct inventory year when creating inventory.

Form 1.0 (***see Page 72***)

☐ Check the **Annual Emissions/Fee** box

☐ Check **Part 1** and **Part 3** boxes

☐ Update Form 1.0, if needed (mailing address, parent address, responsible official, etc)

☐ Attach any electronic documents that are ready to be attached

Attachments:

1. **2010 Emission Calculations**
2. **Cover letter indicating that EU-S03.1 and EU-S05 were decommissioned on 12/31/09 and that EU-S03.2 did not operate during Year 2010.**

Emission Points Tab and Form 4.0 (***see Page 74***)

☐ Add the new emission points, emission units, control equipment, and monitoring equipment to the new inventory (***see Pages 74 - 78***)

New EU-S06 started operation on 1/1/10. This emission unit is connected to new EP-S06 and new CE-S06.

☐ Update inventory to reflect which equipment/process is no longer in operation in accordance to the following rules:

- Do not remove the equipment/process from the new inventory if at least one of the following applies:
  - Equipment/process was used during inventory year
  - Equipment/process remains at the facility and can be potentially used again

  EU-S03.2 did not operate during entire Year 2010, but it remains at the facility.

- Remove equipment/process from the new inventory if it has been decommissioned and any applicable permits have been rescinded. (***See Pages 79 – 80***)

EU-S03.1 and EU-S05 were dismantled and the permits were rescinded.

Form 4.0 (***see Pages 81 - 86***)

☐ Enter throughput for existing equipment/process in the new inventory and update its operating schedule, as needed.

2010 throughputs and operating schedule for existing equipment/process

a. **Emission Unit EU-S01.1:**
    1. **Raw Material: paint**
    2. **Throughput: 10,500**
    3. **Throughput Units: gallons**
    4. **Operating Schedule:**
        i. **Percent total operating time - 25**
        ii. **Hours/Day - 24**
        iii. **Days/Week - 7**
        iv. **Weeks/Quarter – 13**

b. **Emission Unit EU-S01.2:**
    1. **Raw Material: natural gas**
    2. **Throughput: 39.4**
    3. **Throughput Units: million cubic feet**
    4. **Operating Schedule:**
        i. **Percent total operating time - 25**
        ii. **Hours/Day - 24**
        iii. **Days/Week - 7**
        iv. **Weeks/Quarter – 13**

c. **Emission Unit EU-S02.1:**
    1. **Raw Material: paint**
    2. **Throughput: 8,400**
    3. **Throughput Units: gallons**
    4. **Operating Schedule:**
        i. **Percent total operating time - 25**
        ii. **Hours/Day - 20**
        iii. **Days/Week - 7**
        iv. **Weeks/Quarter – 13**

d. **Emission Unit EU-S02.2:**
    1. **Raw Material: natural gas**
    2. **Throughput: 32.8**
    3. **Throughput Units: million cubic feet**
    4. **Operating Schedule:**
        i. **Percent total operating time - 25**
        ii. **Hours/Day - 20**
        iii. **Days/Week - 7**
        iv. **Weeks/Quarter – 13**

e. Emission Unit EU-S03.2:

1. **Raw Material: natural gas**
2. **Throughput: 0**
3. **Throughput Units: million cubic feet**
4. **Operating Schedule:**
    i. **Percent total operating time - 25**
    ii. **Hours/Day - 0**
    iii. **Days/Week - 0**
    iv. **Weeks/Quarter – 13**

f. Emission Unit EU-S04:

1. **Raw Material: OTHER (dispersion produced)**
2. **Throughput: 61,320**
3. **Throughput Units: 1000 pounds**
4. **Operating Schedule:**
    i. **Percent total operating time - 25**
    ii. **Hours/Day - 24**
    iii. **Days/Week - 7**
    iv. **Weeks/Quarter – 13**

☐ Correction to emission factors, emission factor source, ash/sulfur %, or control efficiency for units and processes **included** in the previous inventory:

a. Spray Paint Booth #1:

1. **$PM_{2.5}$: *0.453 lbs/gallon* & Control Efficiency (%): *90***
    ◊ **Emission Factor Source: MASS BALANCE**
2. **PM_{10}: *0.453 lbs/gallon* & Control Efficiency (%): *90***
    ◊ **Emission Factor Source: MASS BALANCE**
3. **Particulate Matter: *0.453 lbs/gallon* & Control Efficiency (%): *90***
    ◊ **Emission Factor Source: MASS BALANCE**

b. Spray Paint Booth #2:

1. **$PM_{2.5}$: *0.453 lbs/gallon* & Control Efficiency (%): *90***
    ◊ **Emission Factor Source: MASS BALANCE**
2. **PM_{10}: *0.453 lbs/gallon* & Control Efficiency (%): *90***
    ◊ **Emission Factor Source: MASS BALANCE**
3. **Particulate Matter: *0.453 lbs/gallon* & Control Efficiency (%): *90***
    ◊ **Emission Factor Source: MASS BALANCE**

☐ Emission calculations to be entered into Form CA-01:

a. Year 2010 throughput for Spray Paint Booth #1: 10,500 gallons of paint.

Naphthalene emissions: 0.01 lbs/gal x 10,500 gals/yr / 2000 lbs/ton = 0.05 ton/yr

b. Year 2010 throughput for Spray Paint Booth #2: 8,400 gallons of paint.

Naphthalene emissions: 0.01 lbs/gal x 8,400 gals/yr / 2000 lbs/ton = 0.04 ton/yr

☐ Enter the following information for any new equipment/process: (1) raw material; (2) throughput; (3) operating schedule; (4) emission factors; (5) emission factor source; and (6) emissions in tons per year. Use SPARS auto-calculation feature, unless the emission factor source is "CEM," "Permit," or "Other."

a. Emission Unit EU-S06:

1. Boiler #2 – Natural Gas

i. Raw Material: natural gas

ii. Throughput: 222.8

iii. Throughput Units: million cubic feet

iv. Operating Schedule:

- **Percent total operating time - 25**
- **Hours/Day - 18**
- **Days/Week - 7**
- **Weeks/Quarter – 13**

v. Emission Factors:

- **$PM_{2.5}$: *7.60 lbs/MM cubic feet***
  - **Emission Factor Source: FIRE**
- **PM_{10}: *7.60 lbs/MM cubic feet***
  - **Emission Factor Source: FIRE**
- **Particulate Matter: *7.60 lbs/MM cubic feet***
  - **Emission Factor Source: FIRE**
- **Sulfur Dioxide: 0.60 lbs/MM cubic feet**
  - **Emission Factor Source: FIRE**
- **Nitrogen Oxides: *50.0 lbs/MM cubic feet***
  - **Emission Factor Source: FIRE**
- **Volatile Organic Compounds: *5.50 lbs/MM cubic feet***
  - **Emission Factor Source: FIRE**
- **Carbon Monoxide: *84.0 lbs/MM cubic feet***
  - **Emission Factor Source: FIRE**
- **Ammonia: *3.2 lbs/MM cubic feet***
  - **Emission Factor Source: FIRE**
- **Formaldehyde: *0.075 lbs/MM cubic feet***
  - **Emission Factor Source: FIRE**
- **Hexane: *1.8 lbs/MM cubic feet***
  - **Emission Factor Source: FIRE**

Form 5.0

☐ Click the Submission Type sub tab and check the **(a) Annual Emissions Summary** box.

☐ Update actual emissions. *Anytime that Form 4.0 is modified, Form 5.0 must be updated by clicking "**Update Totals from 4.0**."*

☐ Subtract PM HAP TOTAL and/or VOC HAP TOTAL, if applicable
Subtract 1.09 tons of VOC HAPs.

Part 3

☐ Click on the **Application Contents** sub tab and check the forms included in the new inventory

Review (***see Chapter 10, starting on Page 92***)

☐ Using SPARS print-preview, review the new inventory and/or download spreadsheet from the Air Quality Website (https://aqbweb.iowadnr.gov/access)

3.0 TITLE V EMISSIONS INVENTORY SUBMITTAL

The Responsible Official signs and submits the new inventory as follows: (***see Chapter 11, starting on Page 95***)

☐ In Part 3, click the "**Truth, Accuracy, and Completeness**" sub tab

☐ Check the signature box and enter the signature date

☐ Using PIN, submit new inventory to DNR